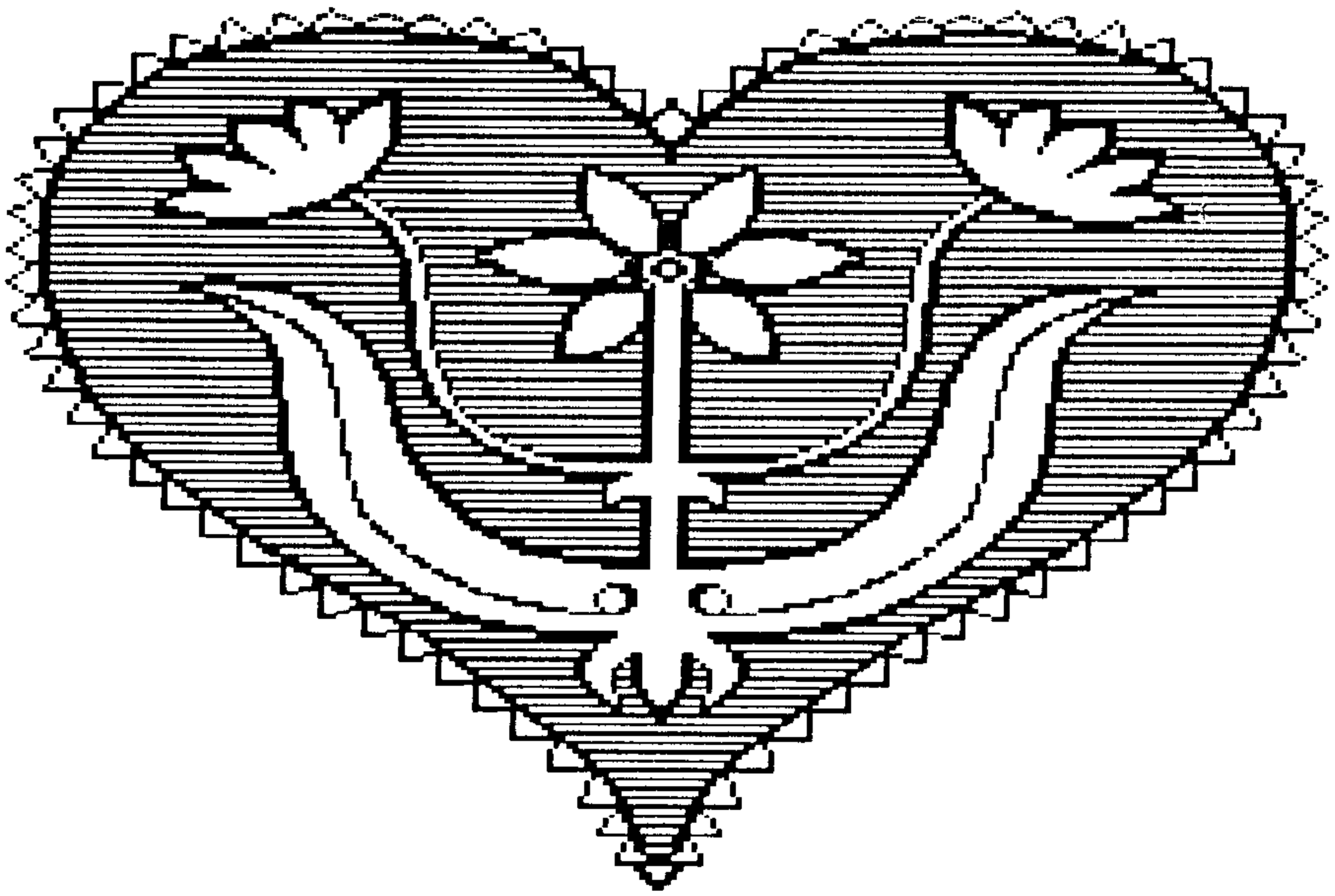
CHICAGO TIMES

NEWSLETTER OF THE CHICAGO TI-99/4A USERS GROUP

HAPPY VALENTINES DAY
FEB. 14th IS A FEW DAYS AWAY
HAVE YOU HUGGED YOUR COMPUTER?

FEBRUARY 1989

EDITOR: Bob Demeter



THE FEBRUARY MEETING. . .

Sat. February 4. From 1pm to 3 pm in the Community Room at the Brick Yard Mall. Support your group. Be there.

GROUP's BBS # 312 345-4136

New HOT line # 312 869-4304

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Contributing artists: Buzz Krantz, Dan Gronowski, Danny Gold stein, Anne Dhein and BD

GROUP'S HOTLINE 312 869-4304

MEETING DATES

Excluding the Faire, all meetings will be held the first Saturday of the month. All meetings will be held from 1pm to 3pm in the Community Room of the Brick Yard till further notice. If you know of a better more convenient place, please let us know.

The Chicago Times is published 10 TImes a year from Sept. to June. Chicago TImes is in no way affiliated with Texas Instruments. We are supported solely by our subscribers and advertisers. Subscriptions are free with membership to the Chicago TI 99/4A User's Group. The Chicago TImes is also distributed free to any User's Group that wishes to reciprocate. Articles within these pages may be re-printed by other User's Group Publications provided credit is given the Chicago Times as the original source of the article. Comments and letters are welcome. We also accept submissions of original articles and programs.

THE PRESIDENT SPEAKS. . .

I want to begin by thanking those individuals whose efforts allowed the last meeting to run so smoothly. Special appreciation goes to Oscar Bretana and Mike "ROBOFROG" Maksimik for their fine presentations.

I will attempt to publish my planned agenda of each meeting, at least three days before the meeting. I will merely upload it to the group's bbs for anyone who is interested.

A very special person to the group has recently been in the hospital again. I am speaking about the group's "gofer," Grant Busch Schmalgemeier. It seems that Grant had a very severe asthma attack, just before the last meeting. He was in the intensive care section of Ravenswood Research Hospital for some days, but he was able to return home today. Few members have sacrificed as much as Grant has, for the good of the group. Our prayers shall always be with him.

If you have the proper hardware, please use the group's bbs. It is a great source of information. If you need more infomation in order to just access the board, the March meeting will be devoted mainly to telecommunications. We will have a demonstration of how to use the bbs and how to use TELCO, a new and popular terminal emulator. I also expect for us to have a demonstration on how to initially set up this fine program.

Our yearly programming contest will soon be upon us. There will be cash prizes for the winners. Sam Pincus and Dave Wakely will be the coordinators of this event.

Because I totally forgot to do it at the last meeting, we will be giving away a Horizon RAM disk, for the door prize, at the next meeting. This HRD was contributed to the group by one of our members who is also a vendor at our yearly Faire, Bud Mills. If you are interested in being qualified to win this item, you must be present at the February meeting.

Anyone interested in giving any input to our Faire coordinators, regarding our next Chicago TI Faire should attend the first Faire meeting of the year. It will be held at the same place where our meetings take place, at 10:30 a.m., just before the start of the executive board meeting.

If you purchase any software from our library and find that it is defective, please let us know. The program will be replaced immediately. But if we find that our copy is also defective, you will be allowed to order something else or receive a refund. Most importantly, please be sure to let us

know about the defective program. It is only from your input that we can keep our library current and "clean."

As our great librarian, who also happens to be the editor of this newsletter, Big Bob Demeter, has finished the second volume of our library, we will be shortly able to fulfill our committment to those members who renewed, in 1987, as "on-going non-attending members." These people paid an extra $3.00, with their membership renewal. We promised them the new library listing and a new sample disk. Because of the amount of time and work involved, we were unable to fulfill our obligation to those members before now. But because of the difficulty of this project, this particular status has been dropped, and all memberships (new and renewing) are now $21.00. (Please see Jim Brook's article for the details of our current membership policy.)

Anybody want to volunteer??? It is the only way that our group works. Also, we have need of a publicity chairman. Please consider taking the job.

As I don't have much to say, I won't have a Geneve Support Article for this month. Look for it next month. But since I promised Alan Izzo's daughter, Angie, a riddle, here it is: Q: What is green and dangerous? A: A watermelon with a machine gun!

In closing, I am glad that I am in the TI community. I don't feel bad about those who leave us in order to deal with other machines. I feel that our beloved "TOY-99" has been instrumental in getting a lot of people involved in the age of computers. Though others may have needs that the 4A can't handle, there are a heck of a lot of other people for whom the 4A is still able to do useful things. And as long as there are people who will continue to use their 4A's, our group will continue to have a "reason for being." Who knows what any of us will be doing "tomorrow." But if I should ever be forced to deal with some other machine, I will never look down on my beloved "TOY-99," and I will continue to be proud to have been a part of the 4A community.

I extend to all of you all of the blessings that I have to offer.

Respectfully yours,
Don Jones
President
Chicago TI Users' Group

endit

NICK SPEAKS

LAST MONTH ARTICLE WAS CUT BECAUSE OF A BIG WIND BLOWING THRU THE NEWSLETTER. WHAT DO YOU EXPECT? I HEARD D.J.'S A TEACHER. HE TEACHES HIS STUDENTS TO WRITE NOVELS, NOT THE NEWS. BOB WILL PRINT BOTH ARTICLES OF MINE THIS MONTH OR SOMETHING MAY HAPPEN TO HIM LIKE LAST MONTH.

The one article I wrote did get printed but with a erroneous ED NOTE at the end. Current pricing for keyboard + power supplys, according to Computer Shopper is around $40.00. Bob stated keyboard are around $60 and power supplys ranges from $60 to $80 dollars. What the matter? The editor don't trust this reporter source for information. BOB I want a retraction. Ok I will help (ED. NOTE: I GOOFED). I also made a mistake, the price of a IBM hard disk ctrl ranges from $70-$100. $50 dollars lower than what I stated. That leads me back into Bob's mistake. According to one of the members of the group ms-dos only support 30 meg. After that you have to split it to get to the rest. So if you have a 60 meg you actually have 30 meg on drive c and 30 meg on drive d. I think msdos 4.0 get around this limit and let you format the hard drive for a full 60 meg. So go out and buy a clone or see if local member Chuck Levitt can put together a system like I mention last month for $750.00. After all he's putting it together he is entitled to a little profit. Bob is a clone dealer now, he may be able to help you too.

I am not the only one that complains about their group. The following is from the past editor of the LITI 99'ER. He had to quit because the computer cut into his personal life a bit too much. Bob Coffery (WHY 99'er) seen this and stated Whose computer doesn't affect his personal life?

To those of you that telephoned board members to complain about my editorials about the policies that were formed at the meetings and reported in this publication, get off your buns and attend a meeting and complain where you can be heard and/or challenged. Let your opinions be heard by all.

BOY WHERE HAVE I HEARD THIS BEFORE????????

The next excerpt is from the WHY99ERS and MICROPEDIUM REVIEWER Harry Brasher. Another TI'er who don't pull punches when reviewing a piece of software or speaking his piece.

THE VIEW FROM THE POINT: I must be getting mellow in my old age because I had a hard time finding something to complain about this month.(nicks note: I hope this doesn't happen to me.) I do have a suggestion or two concerning TI-FAIRES

I think an attendance of 500 is pretty pathetic for the Chicago Faire. This year I understand that it was held in a

hotel type of atmosphere that made things a lot easier on the vendors. What I would like to see for this situations to continue and also for the faire to continue for the weekend. I think a lot more people would attend from a longer distances if they could spend more than a day if they could see things and talk to people. ED NOTE: I think that was 500 paid attendees. Members got in free. Overall attendence was much higher.

I also think there are too many of these faires. It's time for the clubs to start working together and throw these things on a regional bases rather than one in every state. There are too many for all the vendors to attend with confidance. I had lots of fun in Harrisburg. but I doubt if more than 100 TI people came to it. Why should they if there was one in Jersey, one in Washington and other spots within 150 miles. It cost a lot of money for vendors to fly in to these things and if they can't get a good return...

My suggestion that we should break the country into 6 sections, put the groups into those sections together and throw a real wingding in each one. I think this would guarantee 1000 people at each show. That would be more than enough interest for any vendor.

What do you think??? htb

I thought Harry's idea was great. This would also give the vendors more time to develop more software. Lets see what dates are open.

FEB	SAN-DIEGO CA
APR	
MAY	
JUL	
SEPT	
NOV	CHICAGO IL.

THE ABOVE DATES ARE OPEN, WHAT GROUP OR GROUPS ARE WILLING TO FILL IT? WE NEED ONE FROM NEW-YORK. ALANTA SOUNDS GOOD AS WELL AS TEXAS. THAT LEAVES 1 MORE DATE OPEN. OR, SHOULD WE LEAVE IT FREE FOR THE VENDORS TO GET SOME WORK DONE? DROP ME A LINE AT THE GROUPS P.O. BOX IF YOUR FAIRE IS SET FOR THE ABOVE BLANK DATES.

My turn to complain. Last month I started trouble by mentioning the group bylaws. It states we must support 16 bit microprocessers. The reason for this is so the group can obtain non-profit status. Last month Don Jones mentioned he is in complete favor of these BY-LAWS. He also said that some people (namely me) interpret these bylaws to mean we must support other computers other than the TI-994a and it compatibles. The following is an except from the BYLAWs on the groups bbs.

ARTICLE III --- Purpose:
SECTION 1: The purpose of the ctiuq organaization shall be an organized effort to provide support for 16 bit microprocessor based computers, without regard to manufacture, and to maintain a forum to exchange information.

This means we can support 16 bit IBM machines. There is no other way to interpret the above. If the membership or even a few member want to support IBM the executive board must allow them space to do such. That includes the following objective from the groups bylaws.

ARTICLE IV --- Objectives
SECTION 1: To educate promote and facilite the exchange of pertinent information, on the 16 bit microprossor based computers, peripheral and compatibles through various means which may include, but are not limited to meetings, seminars, study groups, newletters and electronic bullentin board systems.

The geneve is a 8 bit machine not a 16 bit. The loophole is it's a TI/994A compatible. As I see it, the bylaws will support the geneve but only with software that will work on the 16 bit TI/994A. All other programs are deemed incompatible and are in violation of the groups purpose and objectives. Don stated in his last paragraph and I quote "I feel safe in saying that our group will continue to support exclusively the TI-99/4a, and it's compatible machine for the foreseeable future, and no one should fear any incursions by any other machines, PERIOD."

Talk about politcal double-talk. He's the one in complete favor of the bylaws.

If the group doesn't want to support the bylaws, it will be in complete violation of goverment law. IF THE GROUP VIOLATES THE LAW, I WANT NO PART OF IT. I NOW SEE THAT IT IS BEST FOR ME TO ABDICATE FROM ANY DECISION THE EXECUTIVE BOARD MAY HAVE. I WILL CONTINUE TO DO WHAT I DO TO HELP THE GROUP UNTIL THEY GET A REALIABLE REPLACEMENT FOR ME. I DO NOT WANT TO BE RESPONABLE FOR THEIR MISTAKES. I FOUGHT THE GROUP FOR THE LAST YEAR AND WAS A MAJOR FORCE IN GETTING THEM TO BE MORE RESPONISIVE TO IT'S MEMBERS. I TOOK OVER THE NEWSLETTER EXCHANGE, (bob will be printing more from other groups if D.J. shorten his articles.), BBS (it was unrealiable for a long time), CREATED THE HARDWARE BOOK (which I like to rub their faces in it for taking so long to get it printed), AND THE LIBRARY EXCHANGE PROGRAM. SO IN LAYMAN TERMS, I QUIT. AND ANY FUTURE ARTICLE I WRITE (any member can still summit articles) WILL BE MORE INFORMATIVE.

One more thing before I go. The group installed a hot line at the president's house. We had basically 2 problems. The

library and membership files. For faster respone to library problem call BOB DEMTER's bbs at 219-659-1245 8N1. He's the groups librarian. For faster responos to membership problems, James Brooks bbs at 312-651-7252. He is the groups membership chairman. If you want to check the status of your membership the userlist on the groups official bbs at 312-345-4136 will have your membership number and expired date. ANY PROBLEMS BUG D.J. AT THE GROUPS HOTLINE 312-869-4304 or leave a email for him on the GROUPS BBS member #168.

NICK IACOVELLI JR.

The Making of a Portable

By Jan Janowski

I thought that you may want to get the information on the construction of the portable that I have built. It has been a rewarding project, but not without its ups and downs. At times I have felt that I am on an emotional roller coster with problems being solved and new problems occuring nightly. WARNING! THINGS CONTAINED IN THIS AND SUBSEQUENT ARTICLES CONTAIN INFORMATION, WHICH IF NOT EXECUTED PROPERLY, WILL CAUSE IRREVERSIBLE DAMAGE TO A TI COMPUTER IF NOT IMPLEMENTED PROPERLY. BY FOLLOWING THESE ARTICLES TO THE LETTER, YOU WILL HAVE MADE NUMEROUS MODIFICATIONS TO THE INSIDES OF YOUR TI, AND YOU AND YOU ALONE WILL BE RESPONSEABLE FOR YOUR OWN ACTIONS!

First, there was the premise. That is, just wanting to do something is not enough. You have to verify that your Idea is feasible before you start. I thought that I had done my homework. I had someone try to load files without a disk controller card in his Expansion Box, and it loaded! Little did I know that that over simplification would come back to haunt me later. As I look back on the Portable project, I can see that I did some things very good, and some things were not as good, in fact, very wrong.

At first, I had to determine if a portable could be done, and could be powered by battery power. I knew that there was space to the left of the cartridge slot and behind the keyboard, but had no idea whether I had enough room to put a ramdisk there. But if you stop to think about it, a ramdisk is not enough. There is almost no reason to have a portable computer unless you could do something with it while it is portable. Just being able to input data is not enough. You want to load files, and preferrably print them out, too. I then thought back to my first expansion with the TI computer. I had money for either a disk system, or a

printer and RS-232 card. After a considerable bit of arguing with myself, I chose the printer. To me, having the availability to output something on paper expands the power of the computer farther than disk storage. The reduction of price of the disk systems by TI simplified my life, but I still feel that a printer expands the productivity of the TI far more than does a disk system. The fact that my wife had just started a word processing service did not sway me, either. So I was then convinced that I had to have (at least) a parallel port in the portable. In fact, my first design for the portable was based on a 8 or 16 bank supercart with just a parallel port for outputting to a printer. Though this was dropped in later designs, I still have that origional "Portable" computer attached to my ham radio system, and it works quite nicely. My first portable was obsolete as soon as it was finished! Whereas it worked as designed, it was too restrictive in its input and output, and I felt that an improvement was necessary!

The fact that I rejected my first design made me put more efforts into my experimentation. I found my time was being split many ways simultaneously, trying to improve in many directons at once. Need to be able to store, recall at will. I did not have the current to power or space for a disk drive, but I wanted all the benifits that it gave. My Ham Radio computer became my test bed for the power supply. I had purchased a power supply that was obviously made for TI, but it looked better than any supply that I had ever seen in a black TI before. It just looked better. The power connection plug had only two wires on it, and the words IRIICHI TSUSHIN KOGYO CO LTD. and the part number 1053214-2 on it. From what I saw of it, it looked like a switching supply and had a whole lot more capacitance and inductors in it. A short sidetrack while I comment on the switchmode supply:

Switching supplies normally work more or less like this: A power supply creates a voltage, which drives a oscillator, which drives a transformer, which isolates the secondary of the transformer from the primary, and a diode converts the AC pulses to DC pulses, which are smoothed by capacitors and inductors. The important thing I saw on this supply was that it had two wires as an input from the power source, which means that the tapped transformer (essentially two separate supplies) was not being used to create the plus and minus supplies! This was very significant, as the use of only two wires means that it could be powered by battery! All this is good, but would it power a TI? I tested it on the Ham Radio TI, and all went fine. In fact, it was much cooler under extended periods of use. then, I started doing two things. I sent a letter to TI, asking about the power supply I had stumbled on, and I started testing one of the supplies to see literally how much current they would supply before failing. (This because I never thought I would

receive an aswer from TI) I ran it for an hour at 3.2A, and though it got warm, it did not fail. Then, my letter was answered by TI, complete with schematic an theory of operation, and a letter saying that I could not photostat it! OK, I can't provide you with a photostat, but I can tell you that TI sent me that information! This "QI version power supply" is rated at 1.6A on the +5V supply. (tests had shown that a stock TI draws 1.0 A, a TI with 32K memory expansion with 4 8K chips and Hamsoft module draws 1.04A, and that was within the limits. Then I tried running this supply on 12VDC. It would work, but it was not at all happy about it. I then went back to AC power, and took some voltage measurements, to try and find a way around my curent problem. The power before the switching oscillator (after the full wave bridge rectifier) was at 27V DC. so I increased my supply voltage from 12V to 24V DC and found that the power supply would work just fine! But would it power the TI? or damage it? It works fine! In tests I detemined that I could have well over 2 hours of operation of a TI, 32K mem, and Hamsoft module on two 1.9AH 12V Batteries in series. I could even charge them with the AC supply while running the TI! Success!

At this point, I again was having second thoughts on a portable with just banks and banks of Supercart, and no storage. I then went to a friend's house, and asked him if he could run programs from ramdisk, without a disk controller card. It appeared so, so I committed myself to build a second Portable with a ramdisk INSIDE THE CONSOLE, without ever having seen or using a Ramdisk! What cheek I had! Here I had never seen a ramdisk, and now I was building one! Now if a ramdisk could only be put in a console!!!!!!!!!!

End of installment #1

MEMBERSHIP NEWS AND VIEWS

by James Brooks

Belated Holiday Greetings and Happy New Year. Another year has come and gone and TI still lives. At the first meeting of the New Year, we had 100 members and 4 guest's in attendance. We signed up 3 new members and around 12 renewals. A soon to be FAIRWARE program is in the making and will be ready soon. It is a DOS for the TI994/a. I could not see all of the demonstration but it sounded like the 9640 MDOS in action. More about that later because it is now down to the wire time for renewals. Those of you that have not renewed as of this Newsletter (look at your label and note the year behind your membership number), will be dropped from the list next month.

The status between attending and non-attending has been dropped.

DUES ARE TO BE AS FOLLOWS FOR 10 ISSUES OF NEWSLETTER.

All renewals made between 9/1, and 12/31 can pay IN PERSON ONLY (at meeting or Faire)---------$18.00 per 10 issue year
All members within the USA:--------$21.00 per 10 issue year
All members outside the USA:-------$24.00 per 10 issue year
(extra postage for overseas mailing cost $3.00 per year)
All First time members will receive a ONE TIME ONLY PACKAGE WHICH INCLUDES THE FOLLOWING:

1. A USERS GROUP DEMO DISK
2. A USERS GROUP LIBRARY CATALOG
3. AN APPLICATION AND INSTRUCTIONS FOR USING THE BULLETIN BOARD AND GETTING A PASSWORD

LIBRARY CATALOGS FOR OTHERS WILL BE SOLD FOR $2.00

Late renewals (between February 1, and August 31, will receive back issues (subject to availability as we do run out and cannot get reprints). Renewals from Sept 1, thru Dec 31, will not receive any back issues but gain the NEWSLETTERS for the rest of the year (October, November or December).

As of this mailing, which will be around January 30, the membership files are up to the date that they are printed, about January 20 and the membership cards will be mailed with this NEWSLETTER. All members that have not renewed by January 20,1989 will not get a New Membership card with this newsletter. Now that I am getting used to taking care of the files, I intend to keep them up to date as fast as I receive your renewals. Some of you said at the meeting that they had renewed in December but their label still said 1988. Well that was because the renewals did not get to me before I sent out the labels for the NEWSLETTERS and it will be evident on the next one. Newsletter articles must be in by the 15th of the month while I have until the 20 to get the

labels printed. Be sure that we have your correct address and zip code. Check your label. If you get a New Card and the label says '88, Don't worry, BE HAPPY!! I did some of the late arrivals on the card but I did not change the labels that were already printed.

Then next meeting should be a very good one with demostration's.

So long for now until next month and Have a Good TI'ear!

Confucious say "Much easier to keep up walking than get behind and have to run to catch up".

TIME TO RENEW TIME TO RENEW TIME TO RENEW TIME TO RENEW TIME

TI Base Review Part 1

by Bill Gaskill

Inscebot's TI-Base data manager has only been out since June 1988, but it seems to have gotten off to a good start in the commercial market. With the power and potential the program offers, coupled with good vendor and user support, TI-Base is destined to be one of the all-time success stories in the 99/4A community. It is a good program that continues to get better as author Dennis Faherty listens and responds to user's comments and suggestions. As of August 1988 TI-Base is in V1.02. It has undergone at least eighteen (18) modifications since V1.0 was released, many of the mods being spurred by user feedback. That says alot for the support for the product, both by the TI community and by the author.

There is always a certain amount of frustration experienced when learning any new software application. TI-Base is new and it is unique, so it too may cause some frustrations when trying to make it work for you. However, I think that you should keep in mind the fact that TI-Base is not designed for the first-time data base user, but rather it is targeted at the experienced user who wants complete control over the data management function. Nonetheless, first time users may also find the program quite learnable if they already have some exposure to the concepts of data file development and manipulation.

In this tutorial I will illustrate one user's ideas on how to make TI-Base manage data. To make learning easier I have chosen to use a couple of sample data files that are common applications among data base users; a checkbook management data base and a periodicals index.

The periodicals data base is named TI/INDEX. It contains records on the location of articles that appear in commercial publications and User Group newsletters. It is made up of five fields with the

following field names;

SUBJECT SOURCE TYPE DATE PAGE

The Checkbook data base is named CHECKS88. It contains records from my checking account. It is made up of five fields with the following field names;

CHECK DATE PAIDOUT DEPOSIT DESCription

Any sample command file that lists the command USE TI/INDEX is written to operate on the periodicals data base. Any command file that lists the command USE CHECKS88 is written to operate on the checkbook data base.

@INTRODUCTION:

A couple of "housekeeping" items before we begin:

- TI-Base uses "directives" within "commands" to accomplish data manipulation. The words;

FIND, DISPLAY, PRINT, REPLACE

etcetera are directives.

@INTRODUCTION (cont'd):

The phrase;

DISPLAY ALL SUBJECT SOURCE TYPE DATE PAGE

is a command. Command files are simply collections of specific directives and commands created in a desired order.

- The line numbers and structured programming format used in the example command files are not required by TI-Base. The line numbers are used for reference, the structure for readability. TI-Base does not show or use line numbers when a command file is being created or edited.

@THE DIRECTIVES:

@APPEND: This is the directive that is used to ADD records to an existing data file that has already been activated with the USE directive. From the dot prompt you would type in;

USE TI/INDEX

and TI-Base would go out to the disk drive that is specified in the SETUP file for data disk access. The default is DSK2. Or, you could type in;

USE DSK1.TI/INDEX

and the file would be activated from the data disk in DSK1. However, if the default of DSK2 was not changed in the SETUP file, the first time you tried to access any data from the file, TI-Base would still look at DSK2. This is because the SETUP file parameters remain in memory after the file is read. To change the data disk drive value in memory you would type in;

SET DATDISK=1

Now when you wanted to access the file TI-Base would go to DSK1 to look for the data file.

After entering the USE TI/INDEX command type in the word APPEND. It MUST be entered in upper case letters. TI-Base will let you type commands and directives in either upper, lower or mixed case, but it only interprets upper case. When APPEND has been entered the data input screen appears. To add records to your file simply begin typing the information into the appropriate fields. TI-Base provides a scrolling input field that allows you to have a field that is much longer in characters that will be accepted than is actually shown on one screen. On the 40 column display 10 screen columns are consumed by the names of the fields you created when the file was set up. Another column is used as a visual separator between the field name and the data being typed in, and then you have the actual input field. About 23 characters can be entered on the first screen before TI-Base scrolls out to the right to allow the remainder of the field to be used. Next to the last column displayed in any field are the field counters that sum the number of bytes per field consumed by each entry of data. The counters take up another 4 screen columns.

@APPEND (cont'd):

Once you have entered a record and the cursor passes over the last defined field, or you press F8 (Execute), the record is written to disk or stacked in RAM awaiting a disk write. The input fields are then cleared and the cursor appears in field one again. To exit the APPEND mode when you are done entering records simply press F9 (Escape). TI-Base will then display the dot prompt again. APPEND can be used as a directive or a command within a command file.

@APPEND BLANK: The purpose of this directive is to add an empty record to the end of the current file. The syntax is;

APPEND BLANK

at the dot prompt or in a command file. APPEND BLANK is also used to write records to disk that you have created with WRITE and READ directives. For example, suppose you want to design a custom input screen to enter data with instead of using the standard screen that appears when you use the APPEND directive. You could set up the instructions in your command file to WRITE the field names on the screen where you wanted them to be displayed, READ in the appropriate data for each field name into LOCALs, set the command file to do an APPEND BLANK and then REPLACE the empty record with the data that was

READ into the LOCALs.

Another use for APPEND BLANK might be when you wanted to transfer records from one file to another. In the sample command file below the TI/INDEX file has a companion detail file named DETAIL. The DETAIL file is used to store added information about a record in the TI/INDEX file. When I created DETAIL I duplicated the SUBJECT field so that it would match the same field in the TI/INDEX file. I have thus created a "Link Field" between the two data files. The command file illustrates how one could read records from TI/INDEX and then write only one field's data from each record into the new file, so that the record numbers for each file correspond and share the same SUBJECT. The structure for DETAIL is;

SUBJECT2	C	28
DETAIL1	C	30
DETAIL2	C	30

I now have a second file with an added 60 characters of storage for each indexing record that is in the source file (TI/INDEX). To transfer the data I DO the command file named TRANSFER.

@APPEND BLANK (cont'd):

```
1  CLEAR
2  LOCAL XFER C 28
3  USE TI/INDEX
4  SORT OFF
5  TOP
6  SELECT 2
7  USE DETAIL
8  SORT OFF
9  DELETE RECORD 0
10 PACK
11 SELECT 1
12 WHILE (.NOT.(EOF))
13    REPLACE XFER WITH SUBJECT
14    SELECT 2
15    APPEND BLANK
16    REPLACE SUBJECT2 WITH XFER
17    CLEAR XFER
18    SELECT 1
19    MOVE
20 ENDWHILE
21 CLOSE ALL
22 RETURN
```

The commands used in lines 9 and 10 set the record pointer in the DETAIL file to match that of the TI/INDEX file because TI-Base starts all files at REC zero. So when a SORT OFF directive was performed on TI/INDEX and a TOP directive followed, the record pointer was aimed at record zero. Deleting REC zero in DETAIL and then packing the file accomplished the same thing with the empty file. If those lines are left out the transfer will still occur, but record zero from TI/INDEX

will be record one in the DETAIL file.

One last note on APPEND. When you are adding records to a data file you will discover that TI-Base accepts records (writes them to disk) faster if you are using an unsorted file in th APPEND mode. So it may be helpful to issue the commands;

```
1  USE TI/INDEX (your filename would be used, not TI/INDEX)
2  SORT OFF
3  APPEND
```

when adding records to a data file.

@BOTTOM: Typing in this directive from the dot prompt or having it executed from within a command file simply positions the disk drive at the last record in the file, similar to a Control End keystroke in many MS-DOS software applications. It is in essence saying "go to the end of the file".

@BREAK: This is a command file statement only, that ends the execution of some processing you specify when a conditional CASE statement is evaluated and the condition returns true. It cannot be used from the dot prompt. See the CASE explanation below for an example of BREAK.

@CASE: This directive is used for the evaluation of boolean logic conditions from within a command file. For example, where a value in the CASE statement is less than, greater than, equal to or not equal to a value in the data file, CASE evaluates for "true". When true exists the command file statements after CASE are executed until a BREAK directive is found. Thus, the CASE statement sets up a condition independent of any data in your data base that can then be compared to values in your data base for a true condition. It may be looked at in a light similar to the IF THEN ELSE statement in Basic. IF condition returns true THEN do whatever processing is specified ELSE BREAK and look for the next CASE statement. If none, ENDCASE.

In the TI-Base manual, page 3-13, Inscebot gives the following example;

```
1  DOCASE
2     CASE A = 1
3          (processing if A = 1)
4          BREAK
5     CASE A = 2
6          (processing if A = 2)
7          BREAK
8     CASE A = 3
9          (processing if A = 3)
10         BREAK
11 ENDCASE
```

What happens in this example is that the CASE A = 1 in line 2 is evaluated. If a "true" condition is found to exist then the processing (DELETE, DISPLAY, PRINT, REPLACE etc.) specified in line 3 occurs.

When it is done the BREAK directive is encountered and that forces the flow of the operation to the ENDCASE statement, thus ending the process. If a "true" condition does not exist the evaluation jumps to CASE A = 2 in line 5. If that does not evaluate as "true" then the process jumps to line 8 where CASE A = 3 is evaluated.

Although the CASE examples seen thus far deal only with what appear to be numbers and/or numeric variables, CASE works equally well with character (string) data. An example would be;

```
1  CLEAR
2  USE TI/INDEX
3  SORT ON TYPE
4  FIND "ARTICLE"
5  WHILE .NOT.(EOF)
5  DOCASE
6     CASE SUBJECT = "ADVENTURING"
7        DISPLAY
8        BREAK
9     CASE SOURCE = "MICROPENDIUM"
10       PRINT
11       BREAK
12 ENDCASE
13    MOVE
14 ENDWHILE
15 RETURN
```

This sample command file not only illustrates the use of string data with CASE, it also shows how CASE allows multiple field searches and selective processing based upon the conditions met. Note that the file begins by sorting the TYPE field and then looking through it for "ARTICLES". Whenever a record is found that contains ARTICLE in the TYPE field the SUBJECT field is examined to see if it contains the word "Adventuring". If not the SOURCE field is evaluated to see if it contains the word "Micropendium". If the first CASE returns true then the record is DISPLAYed. If the second CASE returns true the record is PRINTed.

@CATALOG: This directive is used either from the dot prompt or from within a command file to provide a look at the contents of a disk without having to exit the TI-Base program. Syntax permits you to specify the disk drive to look at either with or without a period after the disk drive number. For example; both CATALOG DSK2 and CATALOG DSK2. are acceptable. The program disk must be in the program disk drive when the command is first invoked though. Once it is you are prompted to;

Ready devices, press ENTER>.

@CHANGE: This directive is normally used from within a command file to alter some condition within the code of TI-Base and is not something you would normally put to use. It was included by the author to allow minor modifications to TI-Base to enhance operations or provide "fixes" for bugs in the code.

@CLEAR: The CLEAR directive erases anything currently being displayed on the screen. Just like a CALL CLEAR in TI Basic or XBasic.

@CLEAR LOCAL: The directive CLEAR LOCAL will clear the values in all LOCAL variables you have declared. The command CLEAR TEST where "test" is the name of a specific LOCAL will clear only the value in the variable named TEST.

@CLOSE: The CLOSE directive may be used from the dot prompt or from within a command file. It Closes an open file in the slot currently being used. CLOSE ALL closes all files that are open, regardless of the slot number they occupy.

@COLOR: Color may be used from the dot prompt or from within a command file. The syntax is foreground color (the text color) then a space, then the background (screen) color. When specifying a shaded color such as medium-green, the dash(-) must be included between the shade and the color or an;

Unrecognized color

error message will be generated. TI-Base supports 16 colors similar to those supported by Extended Basic. The combinations supported are listed on page 4-2 in the manual.

@COPY: The operation of this directive is everything that you could hope for in a COPY function. It performs a direct copy of any file specified, taking the contents of a file or program and cloning it to the disk in another drive or to the new file name specified on the same drive as the source file. COPY requires exactly correct names. For example, if you tried to copy the SETUP file by using only the word SETUP the copy attempt would error out since no file exists that is named SETUP. It is actually named SETUP/C since it is a command file. Thus you would need to include the /C in your copy command. You have the option of including the GO directive at the end of the COPY command if you want the operation to occur without your being prompted to "ready devices, press enter".

COPY can also be used to rename a file or program;

COPY DSK1.SETUP/C DSK2.NEWFILE

A note before going on, TI-Base allows a maximum of 8 characters in names used for data bases and command files. This is because it adds a /C, /D or /S to the end of a file to identify the file type.

@CREATE: This is the directive that would be typed in at the dot prompt to start a new file. The correct syntax is;

CREATE TI/INDEX or CREATE DSK#.TI/INDEX

If you omit the DSK#. the default DATDISK value from the SETUP file is used.

When you enter the directive the CREATE screen appears with a prompt that tells you you may press the space bar to change (toggle) the data types in a field and that you need to press ENTER› to advance the cursor to the next field. The CREATE editing line appears as follows;

FIELD DESCRIPTOR TYPE WIDTH DEC

The Field column is automatically numbered from 1 to 17 as you create each field in the record. The DESCRIPTOR column allows you to enter up to 10 characters to describe or name the input field. The TYPE column is used to define the data that will be entered into the field. Three data "types" are supported, Character, Date and Numeric. You may choose the appropriate type by pressing the space bar to toggle through the available choices or you may simply type in the letter C, D or N to designate the data type. The WIDTH field allows you to specify a maximum length for the input in the field. A maximum of 255 characters per field is permitted. If you specify a Date field type then TI-Base automatically inserts an "8" as the field width. The DEC column lets you specify the number of digits to appear to the right of a decimal point in a numeric field. A range of 0-99 is permitted.

When you have defined the first field you simply press ENTER› at the last column of the field and the cursor drops down to the next field definition line. If you are done defining the file simply press F8 to save it. Pressing F9 will abort the effort. Once you press F8 the file definition is written to the data disk, under the name you specified but with a /S extension, and is then ready to accept record input. In fact, you will be asked if you want to APPEND records immediately after the file definition is saved.

Notes from the Editor...

Let me that this opportunity to wish everyone a Happy Valentine's Day. Please don't forget to reciprocate with the valentine of your choice. I know I have mine picked out. For those of you that live in Chicago, stay away from garages on that day.

This month you will notice a few type-in programs. I received a copy of the Nov. newsletter from an Australian Usr Group, the Adelaide TI Computer Club. I felt this newsletter was very impressive with it's programs and informative articles. Some of the things mentioned are totally unkown here in the states. I feel very fortunate to have received such information. I'm also very proud to be able to share it with you. With information like this available to us, we'll be able to produce a newsletter with less editorials and more meat. By meat I mean more programs, programming techniques and hardware projects.

Over the past year we've lost great columnists like Al Stump and Rich Kline. I am very pleased to have people like Jan Janowski and Mike Maksimik step in and write great hardware and program articles. Let's not forget the neat little programs Tony Zlotorzynski provides us with. I'd like to thank Bill Gaskill for the 21 page TI Base review he sent me. His and Jan's articles will be appearing over the next few months. (CONTINUED- BACK COVER)

MINUTES BY MARCY

The Executive Board Meeting of January 7, 1989 was brought to order at 11:30 am.

-----This is the first meeting under the direction of the new President, Don Jones. Don passed out an agenda which was approved and will be followed for this meeting. Don will be using an agenda for each meeting. He will put it up on the bulletin board ahead of the meeting. In that way, people could add something if they need to talk about it. Since the minutes of the meetings are now published in the newsletter, it was asked if members of the Executive Board received their newsletter and read the minutes of the last meeting. The majority have read the minutes and approved them.

It was felt that if we put the minutes of the meetings in the newsletter each month, this might bring more interest of our group to the members. It might promote more members to volunteer to help with projects within the group by giving them more of an understanding of how things are done to keep our group alive and growing.

-----Don Jones had gone over to James Brooks' house, our Membership Chairman, and collected all the files which he had. He took everything to his home and put it all in order and brought it up to date. He then took it back to James' house and explained the procedure for processing membership orders. At this point everything in up-to-date.

Don feels we should publicize our policies for membership so everyone knows how much the membership is and what they get for their yearly membership dues. The membership fee is $21.00 per year; renewals that are made in person, at the meetings, between September 1 and December 31 will be $18.00; there will probably be a special of $15.00 membership at the TI-Faire from everyone, no matter where they come from; the only acceptions for new and for renewing is for overseas, there will be an additional $3.00 which will make it $24.00. This is additional $3.00 for postage of the newsletter.

-----In an attempt to solve all existing problems, Don has made up a form letter to cover all problems that he knows of. He has gone over all complaints that we have received from anyone in the past few months and he has sent everyone a form letter. James Brooks has given Don a list of all the problems that occured in 1988. Don will send a letter to all the persons that had a problem in 1988 to see if their problem was solved and ask if there are any other problems.

Jim will give Don a report on any future problems. Don has

now put the Hot Line Phone in his house. The new Hot Line Number is 312-869-4304. He has put this information in all his reports and up on the bulletin board. In this way he will be in contact with anyone who has problems or questions to know what is happening with the group. Don stated that he is committed to the Hot Line and he will keep it up and running for at least two years. He saved money on the installation because he did the wiring himself, so it only cost $55.00 for the installation.

-----As you recall, a new position was taken on by Tony Zlotorzynski as "Trouble Shooter". After we determine that a person has a problem, we will have the problem taken care of. Tony will then be told about the problem and he will follow through to make sure that the problem is solved. He will also talk to the person to make sure that they are satisfied with the results.

Since this is a voluntary orgainzation and the mail has to be run through channels, it was suggested that in the newsletter we print that we are a voluntary organization and please allow 12 weeks for any correspondance. This may cover us for any delay of correspondance in the future.

Don and Jim will work on updating the membership application form and also include this in the form.

-----The new membership cards should be going out with the February newsletter. The Board Members are not exempt from paying membership dues. The people that had brought their computer equipment to the Faire to be used by the exhibitors should have gotten free membership for 1989. If anyone did not get free membership, please let us know and this matter will be corrected. If you take a look at the mailing label on your newsletter, you will see a code number. This number consists of your membership number and the year in which your membership is paid up to.

-----Regarding media exposure, Don Jones had brought in copies of some articles about home computers which mentioned TI and our group. It was announced that Texas Instruments was still backing up their computer. If you have any problems with it, you could send it in and have it repaired for a base fee. Also the 1-800-TI-CARES number is still in existance.

-----Mike Chappell has gotten more involved with his work and family activities which will take up much more of his time. Therefore, we will be needing a new Publicity Chairman and also a new Events Chairman. Hank Ellerman has volunteered to be the new Events Chairman. We still need someone to work as a Publicity Chairman. If anyone is interested, Mike will help you get started.

-----Do we need a larger place for our meetings? It was Chuck Levitt's job to look for a new meeting place. He found one in Hillside, Illinois which will cost $75 each meeting. At this point, we have the Brickyard's Community Room booked for all meetings this year and at no fee.

Triton College has not even started working on the building which we used to hold our meetins in. At this point, everything has been moved out of the building at Triton College and the building is closed. The problem that they are having is that Burger King has a lease and will not move out of the building. That is why it is taking so long for the remodeling at Triton College.

More people will check into other facilities and we will have a discussion about it at next month's meeting. Maybe, at that point, a decision will be made.

-----There was a motion on the floor to get new volunteers for projects and to give volunteers and the Executive Board Members full access to the library for the cost of the disk. This was then discussed. There was a suggestion of using a punch card program, whereas, if people volunteered to do something, they get a punch card and when the job is done they get the card punched a certain number of times. And then with so many punches, for example five punches, they get a free disk. Another suggestion was to give the persons that volunteer for projects a certificate stating how many disks they can receive for free. A new motion was that we adopt some type of "Credit for Services" program to receive programs from the library for free and in this way maybe get more people to volunteer their help. Sam Pincus has volunteered to figure out a system to do this and he will report back at the next meeting.

-----Don was going to suggest to start the Executive Board Meeting at 10:30am an run it to 12:30am. This would give us time to have a half hour break between the Executive Board Meeting and the General Membership Meeting. But, since no one was here at 11:00am today, which is the time that the meeting was suppose to begin, Don has dropped his suggestion.

-----Len Rovner, our ex-Treasurer, was not able to be at this meeting because of a family emergency. Therefore, there is no report this month on the non/profit status or a financial report. Oscar Bretana, our new Treasurer, will get together with Len at a later date to transer all records to Oscar's possession and to train him on the procedure.

-----There was not a library report either because Bob Demeter could not come to the meeting this month. However, he was going to try to find someone to bring the library and the equipment to the meeting. Lionel Bordelon and Donald

Logan will be starting the help Bob Demeter with library orders.

-----James Brooks, our Membership Chairman, then gave a report. During the TI Faire in November, we had 100 renewals for membership and we had 40 new members sign up. It was suggested that we send a reminder to people who have not renewed. There was a discussion about this.

-----At today's meeting Mike Maksimik will demonstrate a new operating system which he created. Oscar Bretana will demonstrate a new utility program for PR Base which he has created. However, if no one shows up with equipment to give demonstrations on, we will have a question and answer session which usually works out well.

-----Nick Iacovelli gave the bulletin board report. He said the board is up loaded and running well. He is changing the format and adding subsections a little bit at a time and making sure that it is still working well when he changes something. At this point he is not using the RAM disk because he had some problems with it before when he tried to use it.

Nick feels that he is only getting about 20 calls a week. There was then a discussion about how to get more people to call the bulletin board. Apparently, people are not calling and not leaving messages because they feel this board does not have enough to offer for them to call it. It's not interesting enough for them. There was a suggestion to have a demonstration of the bulletin board at the March meeting. Maybe this will get more people to understand how to get on the board, and what is on the board, and get them to call the board and more offen. There was also a suggestion of putting up programs from the library. Putting this information in the newsletter and asking people to call the bulletin board to download them. There was also a suggestion of maybe having a secret message or number on the board and if persons would find that number or message, they would receive a free library disk at the meeting.

-----Sandy Bartels brought up the point that we need more programing articles in the newsletter. It was mentioned that someone is going through back issues of the newsletter to find things that we could put in the newsletter that would be of interest to people but have not been printed for a long time. These would be put in the newsletter if we need extra pages.

-----Sandy would like to call a early meeting next month before the Executive Board Meeting. This short meeting will include her, Marcy Brun, Christine Chambers, and anyone interested in working on the 1989 TI Faire/Convention. So if anyone is interested in working on the next Faire please

come to the Community Room in the basement of the Brickyard mall at 10:00 am on the first Saturday in February.

-----Last month Bud Mills of Bud Mills Services gave a demonstration. He also brought a Horizon RAM Disk for our raffle. However, at that time we did not have the raffle tickets, so it was going to be raffled off at this meeting. But since Bob Demeter is holding the Horizon RAM Disk and he is not at this meeting, it will be postponed until the February meeting. You must attend the February meeting to be included in the raffle.

-----The Programing Contest is comming up. Sam Pincu and Dave Wakely will be in charge of the contest again this year. This year there will be no catagories. The only rule is that the program has to be created by yourself and it must be a working program. The winners of the contest will be picked either at the April or May meeting.

-----Don read a letter from a Doctor that is looking to donate his equipment in exchange for joysticks so his children could still use the computer for games.

The meeting was ajourned at 1:15 am.

The General Membership Meeting was then opened. All items from above were announced to the general members.

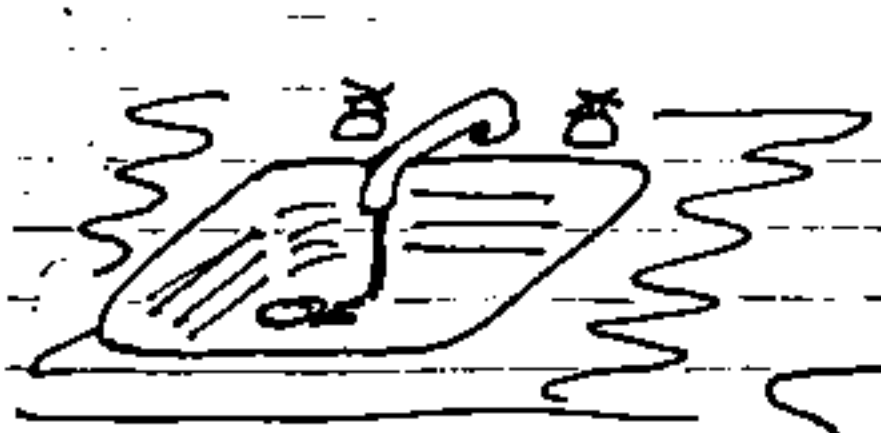
-----It was discussed that there is a new movement to use TI's by teachers in the education field. Ernie has volunteered to take on the responsibility of Education Programs Chairman. He is also helping Nick Iacovelli with the Library Program Exchange.

-----There was a discussion on making our membership list available to companies that deal with TI equipment and software. It was stated that sometimes when you give your name to a company's mailing list, it may be given out to other mailing lists. Some people do not want to be on any mailing lists. It was suggested that this would have to be delt with on an individual basis. It was decided that there will be more discussion about this at the next meeting.

The General Membership Meeting was ajourned at 3:00 pm.

Submitted by: Marcy Brun, Secretary.

```
100 ! THIS WILL SET UP MOST
PRINTERS FOR GRAPHS MODE.
110 ! ***BY PAUL REINHARD***
115 ! *REINHARD ENTERPRISES*
120 ! ******* SET UP WORKSPA
CE
130 DIM A(8,8)
140 HEX$="0123456789ABCDEF"
150 LF$=CHR$(8)&CHR$(10)&CHR
$(15)
160 SPC$=CHR$(15)&" "&CHR$(8
)
170 PRINT
180 OPEN #1:"AXIOM.CR" !PUT
IN WHAT EVER YOU NEED FOR YO
UR PRINTER
190 PRINT #1:CHR$(15);LF$
200 !
210 ! *******SET THE 'CHARAC
TURES'
220 !
230 A$="1899FF3C3C222100"
240 B$="995A3C3C3C448400"
250 !
260 ! ******* DISPLAY THEM F
IRST BY BLOCKS
270 C$=A$
280 GOSUB 500
290 GA$=G$
300 C$=B$
310 GOSUB 500
320 GB$=G$
330 ! ******* AND THEN BY DO
T PATTERNS
340 !
350 CALL CHAR(128,A$)
360 CALL CHAR(129,B$)
370 PRINT #1:CHR$(8);
380 FOR I=1 TO 7
390 PRINT CHR$(128);" ";CHR$
(129);" ";
400 PRINT #1:GA$;SPC$;GB$;SP
C$;
410 NEXT I
420 PRINT : :
430 PRINT #1:CHR$(15):LF$:LF
$:LF$:LF$
440 CLOSE #1
450 END
460 ! ******** (WE USE CHARA
CTERS 7 DOTS HIGH,
470 ! ******** YOU NEED MORE
 ARITHMETIC FOR 8)
480 !
490 !
500 ! ******* SUBROUTINE USE
D FOR A$,B$
510 ! ******* TO PICK OUT DO
TS
520 FOR I=1 TO 8
530 FOR J=1 TO 2
540 BYTE=POS(HEX$,SEG$(C$,2*
I+J-2,1),1)-1
550 FOR K=1 TO 4
560 P=2^(4-K)
570 B=INT(BYTE/P)
580 BYTE=BYTE-B*P
590 A(I,4*J+K-4)=B
600 !
610 ! *******AND PRINT DOTS
AS '*' OR ""
620 !
630 PRINT CHR$(32+10*B);
640 PRINT #1:CHR$(32+10*B);6
650 NEXT K
660 NEXT J
670 PRINT
680 PRINT #1:LF$
690 NEXT I
700 PRINT :
710 PRINT #1:LF$:LF$
720 !
730 ! *******GRAPHICS DOT-CO
LUMNS FOR PRINTER
740 G$=""
750 FOR J=1 TO 8
760 K=128
770 FOR I=1 TO 7
780 K=K+A(I,J)*2^(I-1)
790 NEXT I
800 G$=G$&CHR$(K)
810 NEXT J
820 RETURN
```

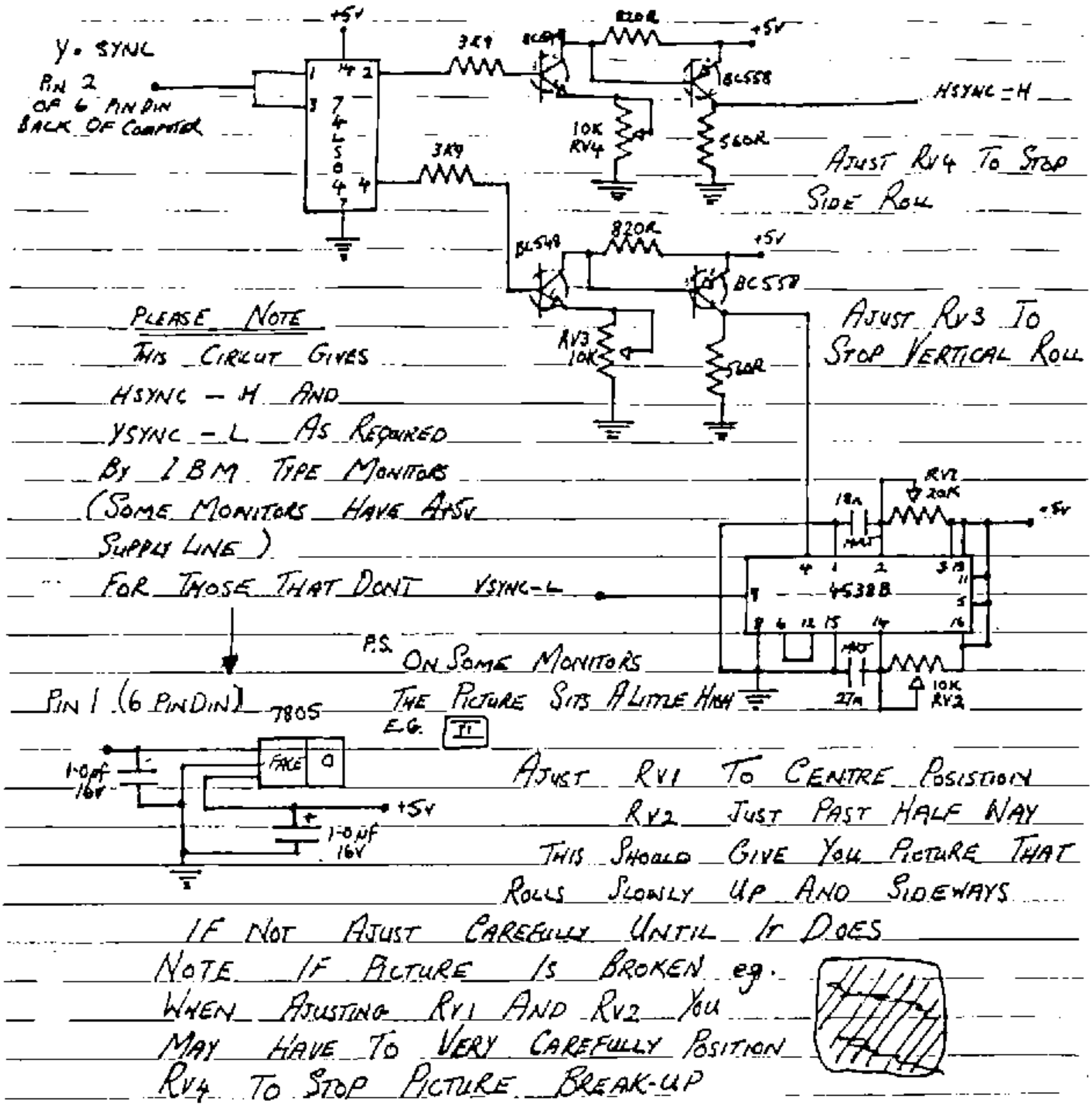


DOWN THE PLUGHOLE

By Colin Cartwright

Well Fred (this may seem like a strange way to start an article, but I think lateral not logic!).
I have finally got around to putting some words to paper. Really, this story is for all, but Fred has been asking me for about nine months to put some of my thoughts to paper. Well this is easier said than done, as my thoughts are a bit like my work room!!!(I'll leave that to your imagination).
You may well wonder what the title of this article has got to do with computers, well the SYNC tells all,"Plughole"!, nothing as far as I know!!.
I decided that this "SYNC" might just be useful to a few people (are you reading this Paul?). I have had quite a few people ask me why they can't get their monitor to work useing the sink separator circuits that have been published in earlier T.I. newsletters. Well I'm not going to go into the reasons why, technical or otherwise, as the ones that can't make it work don't really want to know why it doesn't. What they want to know is how to make it work (interesting thought), so here is how. Don't ask why, because unless you know a fair bit about electronics, you won't understand and if you think you do know all about electronics then you don't need to ask why or how it works!
Just for the record, analog is by far better for the A/A than TTL and for those that have a colour monitor that requires TTL. RGBI, they can be converted to analog. The SYNC, well thats another story. Anyway, below I will solve the SYNC saga for you.

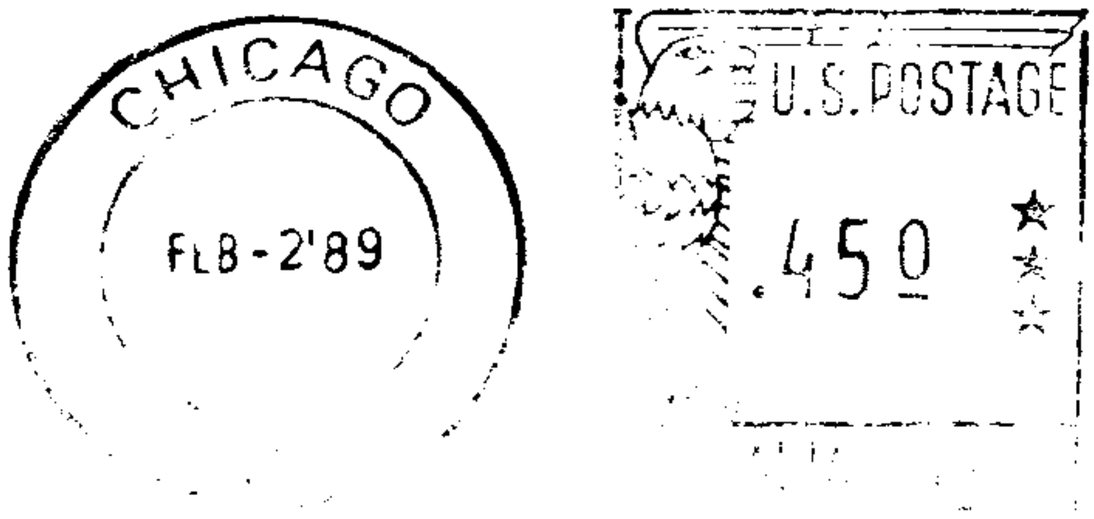
(Ajust Rv1 And Rv2 First)



If you feel that you don't wish to build this for whatever reason, I have ready made boards completed, ready to suit monitors, at $12 each without regulator or $10 with regulator.
Also, ready made analog RGB interface to suit a number of monitors. Interfaces to suit CGA or EGA monitors can be supplied at around $85, providing I have a minimum order of 10.
When adjusting the Sync circuit, please take care as correct position is critical.
The circuit shown does work as I am useing one on my 4/A, running a very high res. EGA type monitor. The definition and colour are great ! and with no hash up. Well lets turn the tap off on this topic and put the plug back in the sink, and it should hold water.
I would like to thank Albert Anderson of Hunter Valley 99ers for his very helpful and prompt reply to my inquiry regarding eprom programmers. Thank you Albert, I will write later as soon as I can crawl out from under all my mess.

Chicago TI User's Group
P.O. Box 578341
Chicago, Ill. 60657

First Class Mail



Notes cont from page 17..

If you have a program, a review or hardware article you'd like to share with us, feel free to mail it to me at 2139 Lake Ave. Whiting, Ind. 46394-1833. Let's use this media to get as much information as possible out to the public. With you help, Chicago TImes could be #1.
- Another reminder. If you have not paid your dues, this will be the LAST NEWSLETTER you'll receive. Please send your check for $21.00 a.s.a.p. If your expiration date is incorrect, please let Jim Brooks know right away. We want you to be a part of the Chicago TI group.
- This year is moving on real fast. The time is NOW to start thinking about the 1989 Programming Contest. Get your ideas down on paper. Make up those flow charts and write that program. In April or May, Sam and Dave (not the duet) will be deciding the lucky winner. Who knows, maybe YOU could walk away with the CASH PRIZE. The contest is open to ALL members. Let's see some non-attending entries.
- By the way, those great Faire photos last month came from Gary Cox. Thanks a lot, Gary. I owe you one.
- Help support these local BBS's that support the TI and Geneve...

Chicago TI User Group	BBS -	312 345-4136	Sysop Nick Iacovelli
The Chicago Connection	BBS -	312 453-7831	Sysop Hank Ellermann
The Original TI West	BBS -	312 345-4127	Sysop Nick Iacovelli
The Chicago TI South	BBS -	312 651-7252	Sysop James Brooks
TI Westdale (an MXT)	BBS -	312 455-3256	Sysop Allen Izzo
The City Limits	BBS -	312 966-2342	Sysop Butch Goldstein
The Bit Bucket	BBS -	219 659-1245	Sysop Bob Demeter